REMARKS

I. Introduction

With the cancellation of claims 5 to 15, without prejudice herein (claims 5 to 15 belong to a non-elected group of claims) claims 1 to 4 are pending in the present application. Applicants respectfully submit that claims 1 to 4 are patentable for the following reasons.

II. Rejection of Claims 1 to 4 Under 35 U.S.C. 112, second paragraph

The Office Action, at paragraph 2, rejects claims 1 to 4 under 35 U.S.C. 112, second paragraph in that the limitations of a "top nozzle" and "guide thimbles" may not be present in every pressurized water reactor.

Applicants have amended claim 1 recite that the method for handling a pressurized water reactor fuel assembly is described wherein the pressurized water reactor fuel assembly has a top nozzle and guide thimbles. Through this clarifying amendment, applicants respectfully submit that the rejection to claims 1 to 4 has been addressed and respectfully request withdrawal of the rejection to claims 1 to 4. Applicants furthermore respectfully submit that as provided in the January 31, 2005 Office Action, the features of "alignment pins", "top nozzle", "shaft", "lock finger", "guide thimbles" and "divots" have proper antecedent basis. Applicants respectfully request withdrawal of all remaining rejections to claims 1 to 4.

III. Rejection Claims 1 to 4 Under 35 U.S.C. 112, first paragraph

The Office Action rejects claims 1 to 4 under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the written description requirement. The Office Action states that the feature of "wherein the structural load of the lifted fuel assembly passes through the divots" implies that there are holes or apertures that the structural load goes through. The Office Action further rejects claims 1 to 4 under 35 U.S.C. 112, second paragraph as there is allegedly no adequate description of apertured divots.

Applicants have amended claim 1 to recite that the structural load of the lifted fuel assembly passes from the divots to the tool. Applicants respectfully submit that the amendments to claim 1 are fully supported by the specification, for example page

6, lines 27 to 29. Applicants furthermore respectfully submit that the previously submitted amendments do not imply that there are holes or apertures which the structural load goes through. As understood by the context of the claim, structural load cannot pass through a hole, but rather needs to pass by/through direct contact of material. Although the rejections under 35 U.S.C. 112, first and second paragraph are not agreed with, in order to further prosecution, applicants have amended claim 1. Applicants respectfully request withdrawal of the rejection to claims 1 to 4.

IV. Rejection of Claims 1 to 4 Under 35 U.S.C. §103(a)

Claims 1 to 4 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,834,934 ("Salton et al.") in view of U.S. Patent No. 4,699,760 ("Shallenberger et al. ") or U.S. Patent No. 4,717,527 ("Gjertsen et al.") or U.S. Patent No. 5,465,282 ("Berglund"). Applicants respectfully submit that claims 1 to 4 are patentable for the following reasons.

Amended claim 1 relates to a method of handling a pressurized water reactor fuel assembly which has a top nozzle and guide thimbles. Amended claim 1 recites the steps of supporting a tool configured to handle the fuel assembly, positioning the tool over a top of the fuel assembly, lowering the tool onto the top of the fuel assembly such that at least two alignment pins engage the top nozzle of the fuel assembly; actuating a shaft to lower lock fingers into the guide thimbles of the fuel assembly; positioning the lock fingers to a position below divots in the guide thimble in the fuel assembly to be engaged; engaging lock finger tabs into the divots to an extended position, and lifting the fuel assembly and the tool, wherein structural load of the lifted fuel assembly passes from the divots to the tool.

Salton et al. relates to a thimble grip fuel assembly handling tool. Title. Salton et al. provide a gripping member 49 which is placed around a vertical rod 56. The vertical rod 56 is connected to a lift plate 42 such that when the lift plate 42 is actuated by a lifting means, the vertical rod 56 is lifted in conjunction with the lift plate 42. Additionally, the gripping member 49 is connected to an actuating plate 45. When the lift plate 42 is raised with respect to the actuating plate, the vertical rod 56 is raised inside the gripping member 49. As illustrated in Salton et al. figure 2, a first frustoconical surface 59, connected to the vertical rod, is moved upward in relation to the gripping member 49. A deformable sleeve 64 then impacts both the first frustoconical surface 59 at the bottom and consequently impacts on beveled surface

85 the bottom most portion of the gripping member 49. Additional lifting of the lift plate 42 relative to the actuating plate 45 causes further deflection deformable sleeve 64. Salton et al. specifically describe the process for using the Salton et al. device. Salton et al. specifically describe that an "inside diameter" of the guide tubes 50 are grabbed. Col. 7, lines 46 to 51. To grab this "inside diameter", the gripping members are "fully inserted" within the fuel assembly. Col. 8, lines 63 to 67. After "fully inserted", the "full weight" of the fuel assembly is suspended from the tool 20. Col. 8, line 67 to 68. To achieve full insertion, the gripping members 49 are fully inserted within the control rod guide tube 50 "past the area where crimping has taken place.". As a result, the gripping members do not grab a dimpled area, but are instead fully inserted into the length of the guide tube. Salton et al., therefore, teach away from engaging the lock fingers into the divots to an extended position, rather Salton et al. are solely concerned with full insertion of the gripping members into the fuel assembly.

The references of Berglund, Gjertsen et al. and Shallenberger et al. merely provide configurations where dimpled areas exist and do not cure the critical defects of the Salton et al. reference. Gjertsen et al. merely discloses a fuel assembly with "grooves 46" in the guide thimbles. Berglund also discloses a fuel assembly for a nuclear reactor with "beads" 9. Although these references show varying types of guide thimble joints, the Gjertsen et al. and Berglund references fail to disclose or suggest the method step of claim 1 disclosing engaging lock fingers into divots in an extended position.

The addition of the Shallenberger et al. reference does not cure the defects of the Salton et al. reference. Shallenberger et al. relate to a fuel assembly skeleton with structural and non-structural top nozzle/guide thimble joints. Shallenberger et al. provide a modified top nozzle attachment which is compatible with fuel assembly skeletons containing several severed guide thimble upper end portions, or insert sleeves. A **non-structural** joint is substituted for the severed guide thimble portion which previously provided a structural joint with the top nozzle adapter plate. Col. 3, lines 41 to 47. Additionally, the slip fit member 50 being inserted into the guide tube is "non-structural". Col. 3, lines 52 to 59. Shallenberger et al., in fact, merely place a tube inside a guide tube. No method steps for lifting are disclosed. As a result, Shallenberger et al. fail to disclose or suggest the method step of engaging lock fingers into divots to an extended position and lifting the fuel assembly and the tool.

Shallenberger et al. install non-structural components in the guide tubes and itself is not directed to the field of lifting of the fuel assembly using guide thimbles. The sum of the references, therefore do not disclose or suggest any connection with passing structural load through the divots in the guide thimbles. The references, in fact, seek to accomplish the opposite, namely providing non-structural connections in guide tubes.

Accordingly, there is no evidence that the references relied upon, whether taken alone, combined or modified, would provide the features and benefits of claim 1. It is therefore respectfully submitted that claim 1 is allowable for these reasons.

Claims 2 to 4 depend from claim 1 and therefore include all of the features of claim 1. Claims 2 to 4 are patentable for at least the reasons provided in relation to claim 1.

V. Objection to Claims 1 to 4

The Office Action objects to claim 1 to 4 in that the specification discloses that the elements that contact with the dimples are "ends or tabs" of a finger and therefore the Office Action offers alternative wording for the claims.

In order to further prosecution of the claims, applicants have amended independent claim 1 with the alternative wording contained in the Office Action. Applicants respectfully request withdrawal of the objections to claims 1 to 4.

VI. Conclusion

In view of the foregoing amendment and remarks, it is respectfully submitted that all pending claims of the present application are now in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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